User Guide

Ioline 301 Software

USER NOTICE

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Ioline 301 Software

User Guide

IMAGES & ILLUSTRATIONS

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Introduction

301 software is designed to work with Ioline cutters. It imports and digitizes stitch or design files for cutting graphics on the cutter and exports sew disks for use by most popular embroidery machines. For more information about Ioline cutters, please see the *300 / 350HF System User Guide*.

301 Software Features

- Interfaces with Ioline cutters.

- Imports major embroidery system designs including Tajima .DST, Melco .EXP, Toyota .10o and Barudan .DAT formats.

- Imports designs created in CorelDRAW!® (HP/GL *.PLT)* and makes embroidery sew disks.

- Nests and cuts multiple copies of pattern outlines, minimizing material waste.

- Includes placement, tack-down, zigzag & satin stitches. Choice of stitch width, density and overlap.

- Edit Stitches: Move, convert jump to trim, add or delete lock stitches. Change thread color.

ⓘ Note

Make sure 301 software is installed as shown in the Installation section.

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Install Ioline Software

1. Insert the software CD-ROM into the PC's CD-ROM drive.

2. The installation should start automatically. If it does not, go to *Start Menu>Run*. Click on *Browse* and choose the CD-ROM drive (usually *D:*). Select *iosetup.exe* then *Open* and *Run*.

3. Follow the self-guided installation instructions to install the Ioline Control Center, 301 Software, Acrobat® Reader, and all manuals. See **Figure 1**.
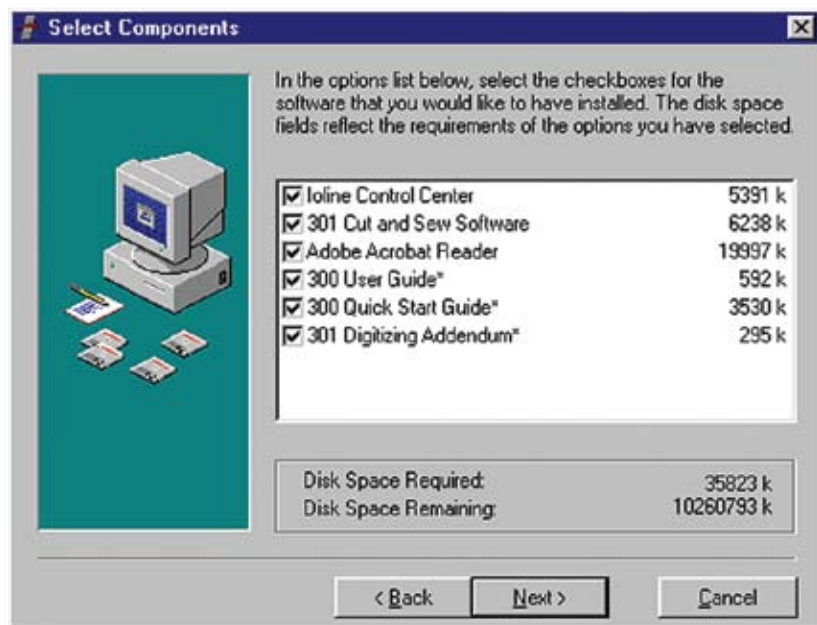
Figure 1. The 300 / 350HF System installation screen.

4. A window may appear asking to install '*Hardlock Drivers*'. Answer '*Yes*' to all questions.

5. Restart the computer if requested.

Installing the Hardlock Key

301 Software requires a hardlock key (or *Dongle*). Without it, the software will not work.

The hardlock key is packaged in the **Accessory Kit**. It plugs into a PC printer (LPT) or USB port. (See **Figures 2** and **3**.)
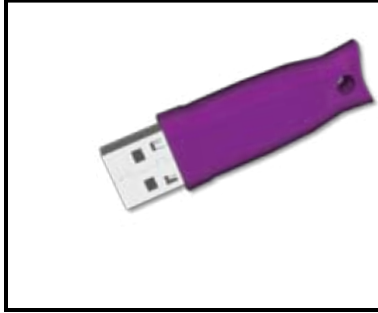
Figure 2. 301 Software USB hardlock key.

Ioline 301 hardlock "dongle"
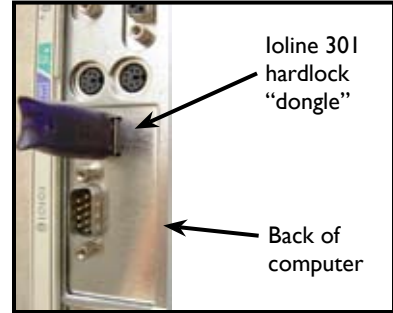
Back of computer

Figure 3. Rear view of computer showing correct installation of the parallel hardlock and printer cable

Launching 301 Software

1. Locate then double click on the Ioline 301 sun icon. (By default, this icon is placed on the desktop after installation.)

2. The Main Window will appear (**Figure 5**.)

Figure 4. 301 Software icon.
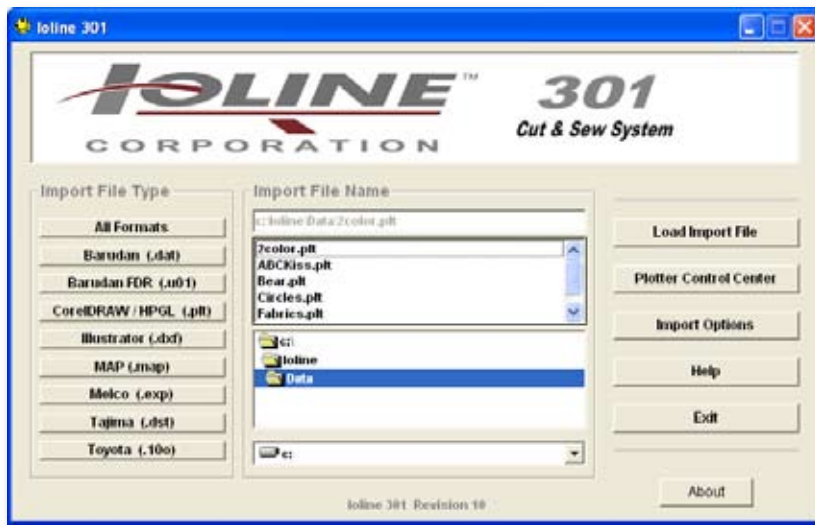
Figure 5. 301 Software Main Window.

Opening a File

1. Choose a file type. 301 Software can import major embroidery system designs, including Tajima **.DST**, Melco **.EXP**, Toyota **.10o** and Barudan **.DAT** formats. The program also supports CorelDraw!® HP/GL **.PLT** format.

2. Check the Import Options by pressing the button and reading the descriptions (*Figure 6*).

Import Options

Display option

☐ Faster display — Uncheck this box if the design window is not displayed properly after importing a design.

☑ With embroidery files, assume outline is placement stitch

☑ Recall previous import file path

HPGL option

☑ Combine consecutive layers of same color

Reduces the number of imported layers if objects of the same color are stored on more than one layer.

Barudan FMC options

[Copy A] — Copies all .dat design files from floppy drive A to folder c:\Ioline\Barudan.

[Copy B] — Copies all .dat design files from floppy drive B to folder c:\Ioline\Barudan.

Warning: This process erases any existing .dat files in folder c:\Ioline\Barudan.

☐ BARUDAN FDR HD (DOS): sequence colors 1..9 as encountered

☐ DXF: linear interpolation for splines

☑ DXF: enable 256 colors

☐ DXF scale factor: [25.4]

☑ MAP: enable use of queue to process multiple .map files

[Cancel]   [OK]

Figure 6: Select import options prior to importing the design file.

3. Use the center file window to locate the folder and file to import. The default folder is *C:\Ioline\Data* (*Figure 7).*

Import File Type

[All Formats]
[Barudan (.dat)]
[Barudan FDR (.u01)]
[CorelDRAW / HPGL (.plt)]
[Illustrator (.dxf)]
[MAP (.map)]
[Melco (.exp)]
[Tajima (.dst)]
[Toyota (.100)]

Import File Name

c:\Ioline\Data\.plt

2color.plt
49ers.plt
ABCKiss.plt
Bear.plt
Fabric_ty.plt

c:\
Ioline
Data

c:

[Load Import File]
[Plotter Control Center]
[Import Options]
[Help]
[Exit]
[About]

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Figure 7: Loading a file into the 301 Software.

4. Click on the file name to import. If the file is not shown make sure that the file type and folder location are correct.

5. Click on **Load Import File**.

6. The **Design Window** will appear (**Figure 8**).

Design Window

Figure 8: 301 Design Window.

Functions

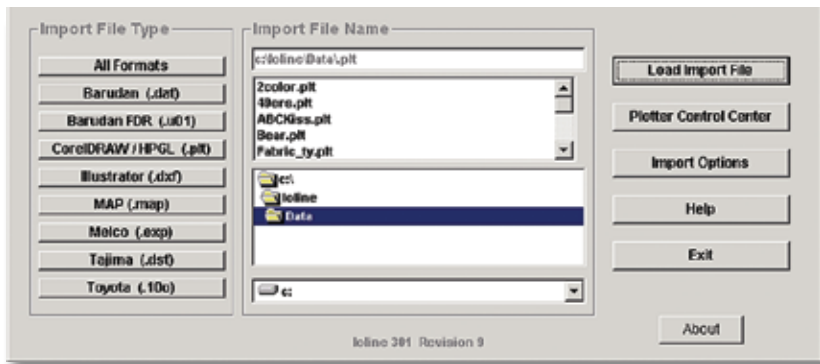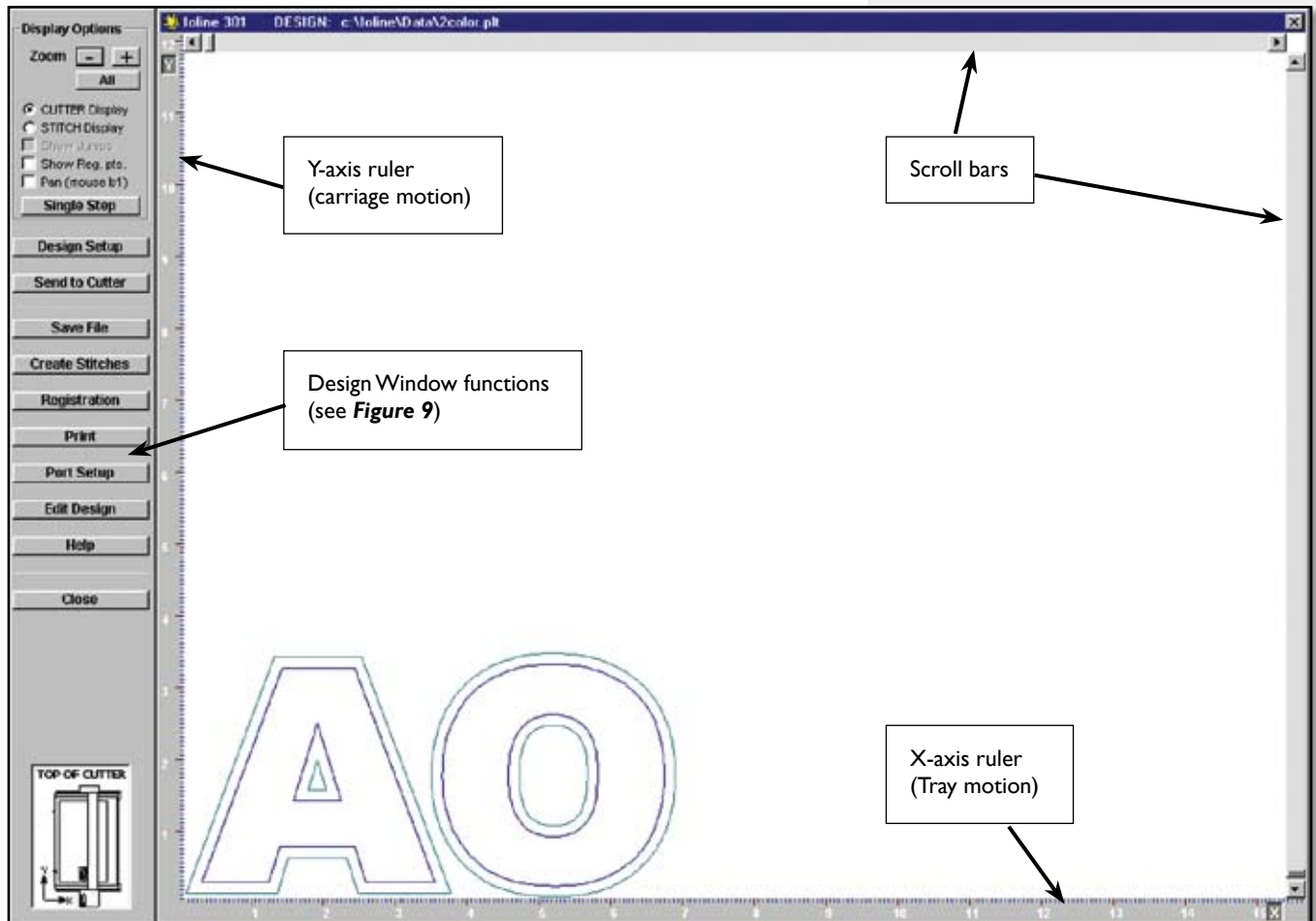|	
Zoom	Enlarges (+) or reduces (-) the view. Each increment is twice/half size.
All	Zooms the display to fit the entire design.
Cutter Display	Shows the cut outline
Stitch Display	Shows embroidery stitches created with the **Create Stitches** function.
Stitch Count	The approximate number of stitches in the displayed design. Active when embroidery stitches are displayed under the Stitch Display.
Show Jumps	When in **Stitch** display, shows all **PenUp** (needle up) movement as dashed lines.
Show Reg. Pts.	Displays registration points in the **Design Window** if they are available.
Pan	Recenters the screen over the cursor when the left mouse button is clicked in the **Design Window**.
Single Step	Displays the vectors in the design file one at a time. Clicking the button displays the next vector.
Design Setup	Displays all of the adjustable settings that modify the design.
Send to Cutter	Sends the current design to the cutter. Ensure that the cutter is in **Start** (**green LED**) mode with material loaded and blade properly adjusted.
Save File	Saves the stitch file in an embroidery machine or HP/GL .PLT format.
Create Stitches	Allows the user to create and modify stitches.
Registration	Opens the **Registration Window** for digitizing and cutting around a preprinted image.
Print	Sends the current view to a Windows printer.
Port Setup	Configures the PC port connected to the cutter.
Edit Design	Opens the **Stitch Editor** application for manual stitch editing.
Help	Provides assistance for 301 software.
Close	Closes the **Design Window**.

Design Setup Window

Figure 10: 301 Design Setup Window.

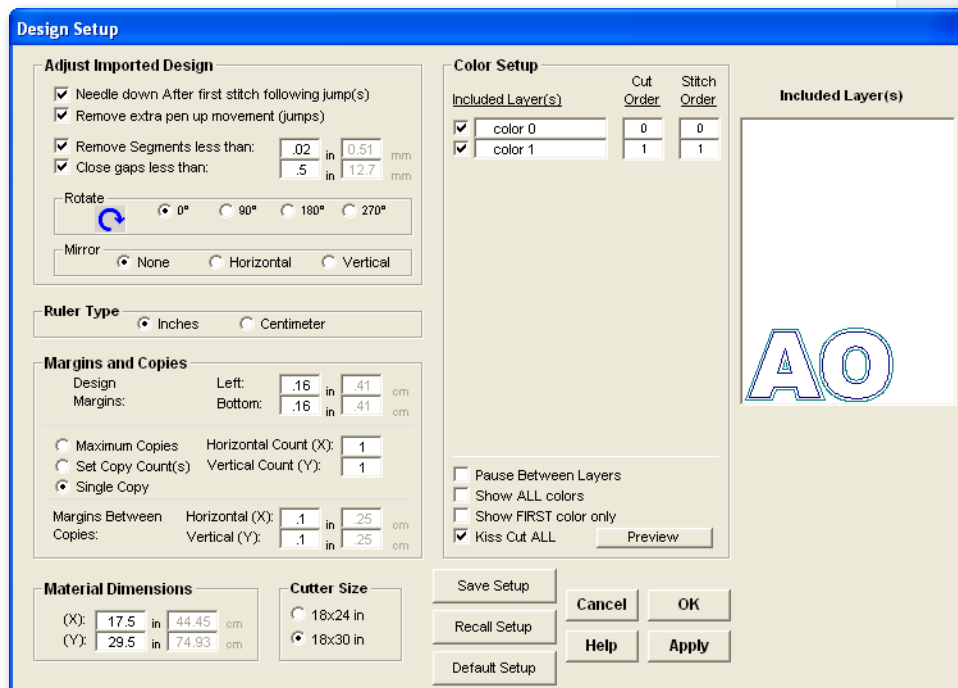|	
Needle down after first stitch following jump(s)	In rare cases, uncheck this box to remove unwanted cuts where a thread is located.
Remove extra pen up movement (jumps)	Combines multiple jumps into a single jump. This cleans a design of jumps that trigger automatic thread trimmers.
Remove segments less than	Combines small vectors into smoother segments to improve cutting quality and reduce cutting time.
Close gaps less than	Repairs shapes that are not continuous. Gaps affect cutting quality and stitch output.
Rotate	Rotates base design.
Mirror	Mirrors base design.
Ruler Type	Change default display units.
Design Margins	Sets the white space border around the tray edge.
Copies	Displays multiple copies of the design so that more than one design is cut at a time. Select **Maximum** to fill the tray. Set **Copy Count** and **Horizontal** and **Vertical** counts for the desired number of copies.

Margins Between Copies	Control the space between copies.
Material Dimensions	Changes the dimensions of the displayed cutting area to match the material size.
Cutter Size	Change cutting area for different cutter models.
Color Setup	Toggles one or more layers on or off for cutting or editing stitches. Enables user to rename layers.
Included Layers	Displays the list of layers imported from the plot file.
Cut Order	Change the numbering in this column to determine the order each layer is cut when the file is sent to the cutter.
Stitch Order	Change the numbering in this column to determine the order each layer is stitched when the sew disk is created.
Pause Between Layers	When enabled, the cutter will stop cutting between each consecutive layer and enter Stop (red keypad light) mode. The user must press the Start/Stop key (green keypad light) on the cutter to resume cutting.
Show ALL Colors	This immediately displays all layers in the design. Turn off layer zero to get rid of unwanted jump stitch cuts.
Show First Color Only	Turns on only the first layer and hides all other layers.
Kiss Cut ALL	This is a specialty function for "Kiss-Cutting". Turn **Kiss Cut ALL** on if you intend to cut multiple layers that must be on top of one another after a cut.
Preview	Opens a preview window that displays the results of changes in Design Setup.
Setup Buttons	Save and Recall custom settings with these buttons. Pressing the Default button will reset all settings to the factory default.
Apply	Applies the changes in the **Design Setup Window** without closing it.

Sending a Cut File to the Cutter

Pressing the **Send to Cutter** button displays the window shown in **Figure 11**. Pressing **Send** will transmit the design displayed in the **Design Window** to the cutter.
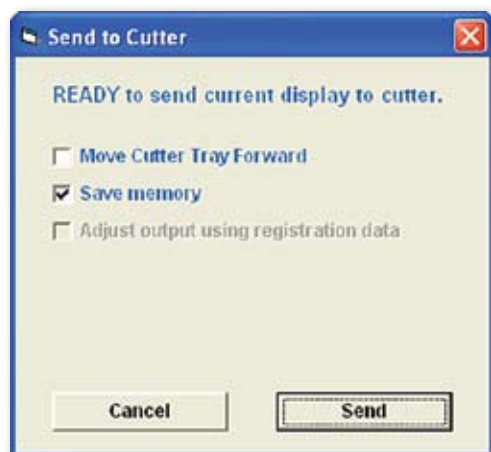
Figure 11: Send to Cutter Window.

Before Sending...

Always load the cutter and make test cuts to determine the correct settings before sending any files. See the *Adjusting Blade Exposure and Force* sections of the 300 / 350HF System *User Guide* for more details.

Send the file directly from the 301 software following the directions later in this manual or;

From the Ioline Control Center Software:

1.   From the menu bar select **File**, **Send Cut/Plot File**.

2.   Either enter the path and file name of the cut or select the correct location from the directory\file lists in the dialog box. For example, the path might be:

      C:\Ioline\Data\<filename>.plt

3.   Select **OK**.

Pause Cutting

1.   Press the **Start/Stop** key to place the cutter in **Stop** mode (**red LED**).

2.   When cutting is interrupted, the carriage and material can be moved with the keypad **Arrow** keys.

3.   Press the **Start/Stop** key to resume cutting. The cutter will return to the original cutting position and continue plotting where it stopped. The keypad LED will change from **red** to **green**.

ⓘ **Note**

Make sure that the carriage and material are in the proper position and that an origin is set by pressing "Set Origin" on the keypad (LED is green).

ⓘ **Note**

If registration data are set with the **Registration** feature, a check mark will appear in the box *Adjust output using registration data* and the 301 will adjust the cut file to the registration points. Unchecking this box will send the cut file without adjustment for registration.

CAUTION

Make sure that the blade tip is not touched while examining a cut. This could damage the blade and cause inaccurate cutting.

Cancel a Cut

1. Press the **Start/Stop** key to place the cutter in **Stop Mode** (**red LED**).

2. Cancel the cut by clicking on the **Abort** button in the **Send File Window**. *Note: If this step is skipped the cut will continue when a new origin is set with the Set Origin key.*

3. Press the **Set Origin** key to make the signcutter delete the cut data it has already received but has not yet plotted.

Save File (and Create Sew Disk)

The **Save File Window** will appear when the **Save File** button is pressed (**Figure 12**). Choose a format to save the sew data.

> **ⓘ Note**
>
> Use the HP/GL (.PLT) format to save the design outline file for cutting later or to keep registration data with the file.

Save File

IMPORTANT: will save current display only.

Select File Format:

- Barudan DOS (.dat)
- Barudan FDR HD (.u01)
- Barudan FMC (.dat)
- HPGL plotter (.plt)
- Melco (.exp)
- Tajima TFD (.dst)
- Toyota (.100)

Cancel

Figure 12: Choose file format to save the cut file.

Create Sew Disk / Output Window

1. Choose a format. The **Export Window** will appear (*See* **Figure 13**).

2. Choose the path and file name.

3. Check the appropriate boxes in the **Options** list (see below).

4. Press **Continue with Export**.

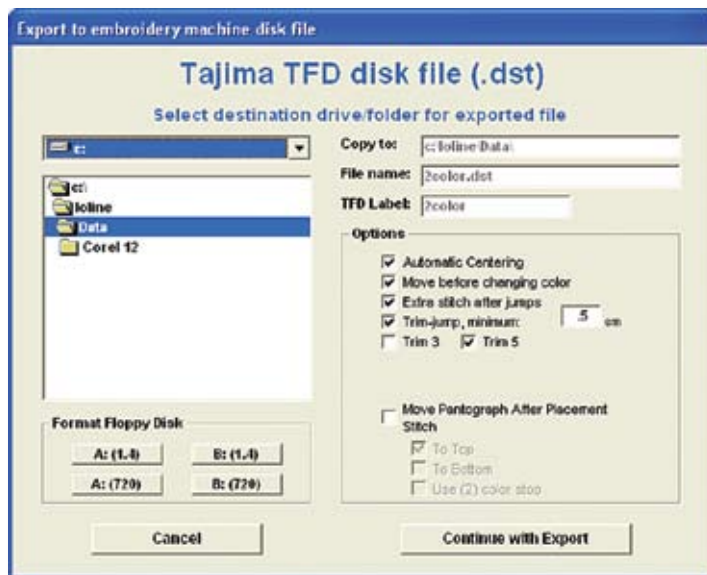5. The **Save Design File Status Window** appears.

Figure 13: Example of saving a file in Tajima .TFD format.

Sew Disk / Output Options

TFD Label (Tajima Only):	Includes a file description in the header portion of a Tajima file.
Automatic Centering:	If checked, the center of the design will be at current origin of the embroidery head. Design will start at the center and return to the center. If this item is not checked, the first segment of the design will begin at the current origin and the embroidery head will stop at end of last stitch segment.
Move before changing color:	If checked, the embroidery machine will jump to the start of the new color/section then change to the new color (i.e. change needles after moving to the new section). If unchecked, the embroidery machine will change to the new color (change needles) before jumping to the start of the new (color) section.
Extra stitch after jumps:	Check to force the embroidery machine to needle down at the start of the first stitch following a jump.
Trim-jump, minimum:	If a single jump stitch exceeds the length specified here, it will change to a trim jump.
Trim 3 / Trim 5:	The number of consecutive jumps that will trigger an embroidery machine trim command.

> ### ⓘ Note
>
> See the *Special Cases* section in Tutorials for information about using Barudan file formats.

Color/Stop added to end: If this item is checked, a color change record will be appended to the end of the design. Commonly used with Barudan FMC (set to first needle of color sequence so it is ready for sewing the design again).

Move Pantograph After Placement Stitch: The Pantograph (sometimes called a hoop) holds the material and moves in x and y directions. If this field is checked, after the placement outline is sewn the embroidery head will move just beyond the top or bottom border of the outline and 1 color change will occur. At this stage, the applique material can be placed. The operator has to program the machine to stop at the first color change encountered.

Use (2) color stop: If checked, the procedure above will include (2) consecutive color records. The embroidery machine operator may prefer this option (program embroidery machine to stop when 2 consecutive color records are encountered).

Save Registration Points (HP/GL Only): Saves the location of the registration points in the output file. The points will reappear when the file is opened and are reusable.

Include All Layers (HP/GL Only): Saves registration points from all layers in the output file.

Save Design File Status Window

After pressing **Continue with Export** the **Save Design File Status Window** will appear. The following are displayed:

- A summary of the output file statistics.

- Print Specifications function. Choose **Portrait** or to make a hard copy of the export file statistics. The options customize the report.
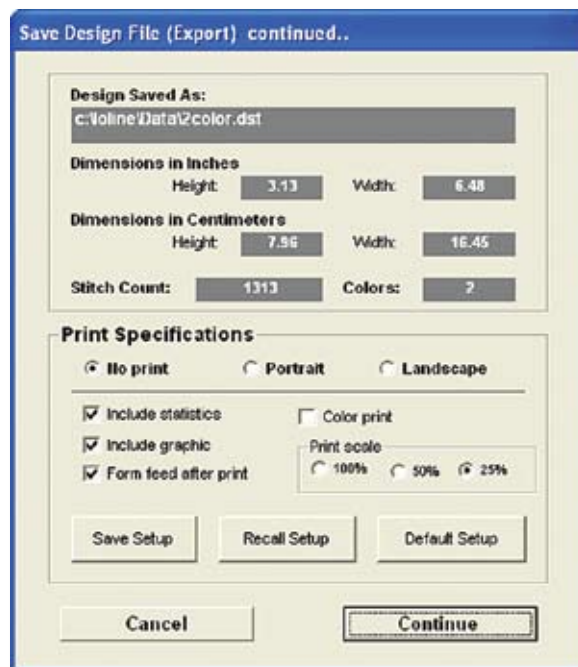

Figure 14: Save Design File Status Window.

> **ⓘ Note**
>
> The term *polygon* refers to an enclosed vector shape.

Create Stitches Window

Placement Stitch	Makes an outline of the polygon to aid placing the piece.
Tack-down Stitch	An indented stitch that tacks the letter or shape down to the fabric.
Indent (Tackdown)	Specifies the amount the tack-down stitch is indented from the polygon.
Bean Stitch	This stitch resembles tiny beans. Three stitches are placed back and forth between two points and stitched in a single line.
Indent (Bean)	Specifies the amount the bean stitch is indented from the polygon.
B3/B5	"B3" and "B5" define the number of back and forth bean stitches.
Stitch Fragmentation Length	Breaks all stitches which exceed the entered length into smaller pieces.
Lock Stitch at Start/End	A triangular sequence of 3 very small stitches are added to the start and end of each group of stitches. This secures (locks) the stitching to prevent unraveling.
Double Lock	Makes the lock stitch a star-shaped, 5-stitch pattern instead of the triangular 3-stitch pattern. This setting is recommended to improve durability.
Convert Outline to Embroidery Resolution	Outlines are adjusted so coordinates are all evenly divisible by 4. This helps ensure that column stitch end points align more accurately (accurate overlap with placement stitch endpoint's).
Eliminate Protruding Stitches	Improves Zigzag stitching on some shapes.
Tackdown/Bean: Segment Reduction	Removes small segments in the Tackdown and Bean stitches to improve output.
Close Polygons	Closes gaps smaller than 1mm that were left in a polygon and smooths stitching of vectors that do not exactly share end points.

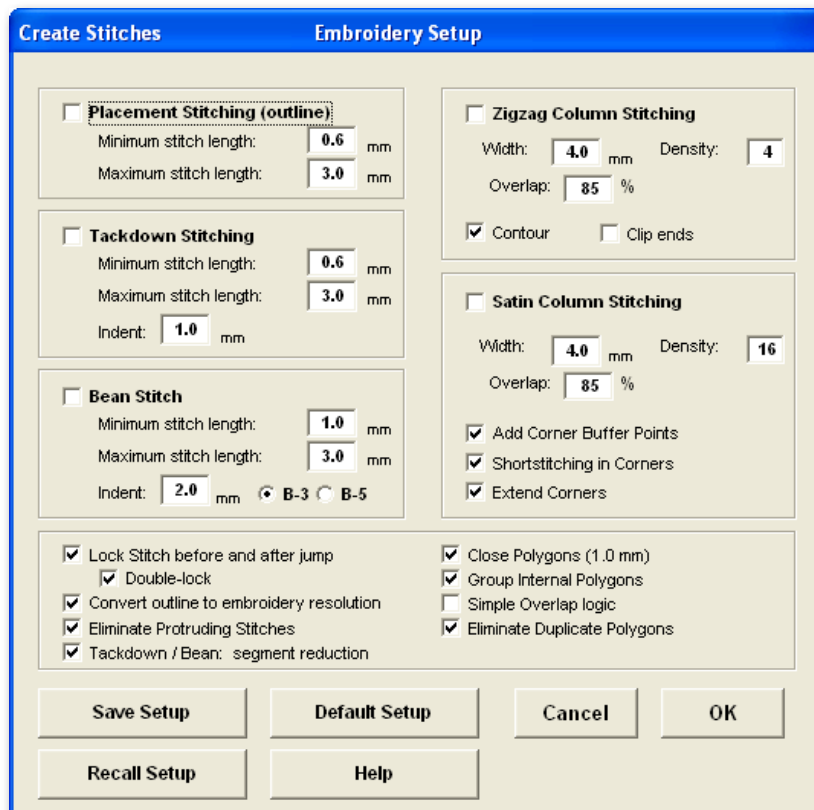**Figure 15:** Create Stitches Window.

Group Internal Polygons	Regroups internal polygons (shapes) with their respective external polygons so that the entire group is processed at once (the default). Left unchecked, shapes process in the order of the original import file.
Simple Overlap Logic	Sets the stitch overlap direction to the outside for internal polygons. When left unchecked (the default), the overlap on internal polygons falls to the inside. (See note in side column.)
Eliminate Duplicate Polygons	Duplicate polygons (exact same shape and segment count) are eliminated to improve processing.
Setup Buttons	Use these buttons to **Save** and **Recall** custom settings. Pressing the **Default** button will reset all settings to the factory default.
Zigzag Column Stitch	Puts a zigzag stitch around a polygon.
Density (Zigzag)	See the **Stitch Density Table** (*Figure 22, in Chapter 4) for stitch/cm values.

ⓘ Note

Internal polygons—shapes that lie within the boundaries of another polygon—have a default overlap direction toward the inside (away from the external polygon). For some designs, you may want to change the direction to the outside (toward the external polygon) using **Simple Overlap Logic**. For example, to prevent the white space in the center of a capital letter "A" from closing up.

Overlap (Zigzag)   Percentage of the column width that overlaps the outline. A 50% overlap places half the stitch on one side of the outline and half on the opposite side.

Contour   Creates a smoother appearance by graduating the transition between zigzag columns.

Clip Ends   Removes the first and last stitch. Handy for removing protruding stitches.

Satin Column Stitch   Places a satin stitch around the polygon.

Density (Satin)   See the **Stitch Density Table** (*Figure 22, in Chapter 4) for stitch/cm values.

Overlap (Satin)   Percentage of the column width that overlaps the outline. A 50% overlap places half the stitch on one side of the outline and half on the opposite side.

Add Corner Buffer Points Smooths the corner transitions. Also referred to as *mitred corners*.

Short Stitching in Corners Lessens the density of stitch endpoints in corners.

Extend Corners   Sharpens corners. Leave unchecked to blunt corners.

Registration Window Functions

Zoom	Enlarges (+) or reduces (-) the view. Each increment is twice/half size.
Pan	Recenters the screen over the cursor when the left mouse button is clicked in the **Design Window**.
Design Setup	Displays adjustable design settings (e.g. margins, active layers, etc.).
Send to Cutter	Sends the design to the cutter. Ensure that the cutter is in **Start** (**green LED**) mode with material loaded and the blade properly adjusted.
Registration: Set Point 1	Puts 301 Software in **Registration Point Entry Mode**. The first registration point is placed where the left mouse button is clicked. A small **R1** appears to show the **R1** point.
Registration: Set Point 2	Same as above except an **R2** marks the location of the second point.
Snap to Endpoint	Automatically finds the nearest vector endpoint when placing the registration point.
Digitize: Set Point 1	Puts 301 Software in **Digitize Point Entry Mode**. Manually move the carriage and tray so that the digitize tool is positioned over the design in exactly the same place the **Registration Point** (**R1**) is displayed on screen. Press the **Start/Stop** button on the keypad to set the digitized point. **D1** will appear when the point is received by the 301.
Digitize: Set Point 2	The same as above except **D2** marks the location of the second point.
Clear Digitized Points	Deletes all digitized points displayed on the screen.
Exit Registration	Closes **Registration** and sends the registration data to the display window. Check **Show Reg. Points** to display registration points.
Status Window	Displays the **Registration Mode** and instructions for the next step.
Coordinates Window	Shows the x-y coordinate location of the cursor.

Figure 16: Registration Window.

Port Setup

Choose the PC serial port where the cutter is connected.

Flow Control

Digitizing Mode should be selected for proper communication. This is the default setting.
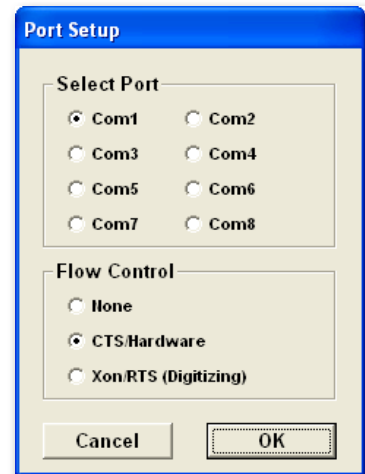
Figure 17: Port Setup Window.

Edit Design

Opens the **Edit Design Window** to allow precise adjustment of individual stitches. See *Chapter 3* to learn about the basic functions of the **Edit Design** application. The *Tutorial* chapter at the back of this manual step-by-step instructions on using the **Edit Design** functions.

Help

Opens the **301 Help File**.

Exit

Closes the **Design Window** and returns to the Main window.

Using Edit Design

The **Edit Design** application enables you to make subtle changes to individual stitches in a file. **Figure 18** outlines its basic functions. For a more complete demonstration of basic stitch editing, see the *Chapter 4*.

There are two editing levels available within **Edit Design**, each identified by the color of the toolbar.

Blue Toolbar Mode

Permits changes at the overall design level, such as rotating or mirroring a design. This is the toolbar that appears when **Edit Design** is selected under the **Design Window**.

Black Toolbar Mode

Permits stitch modifications at the segment level, also known as **Black Toolbar Mode**. Click the **Edit** button on the **Blue Toolbar**, then click on a stitch that you'd like to edit. 301 will display the **Black Toolbar** and permit you to edit stitches.

Edit Design Functions
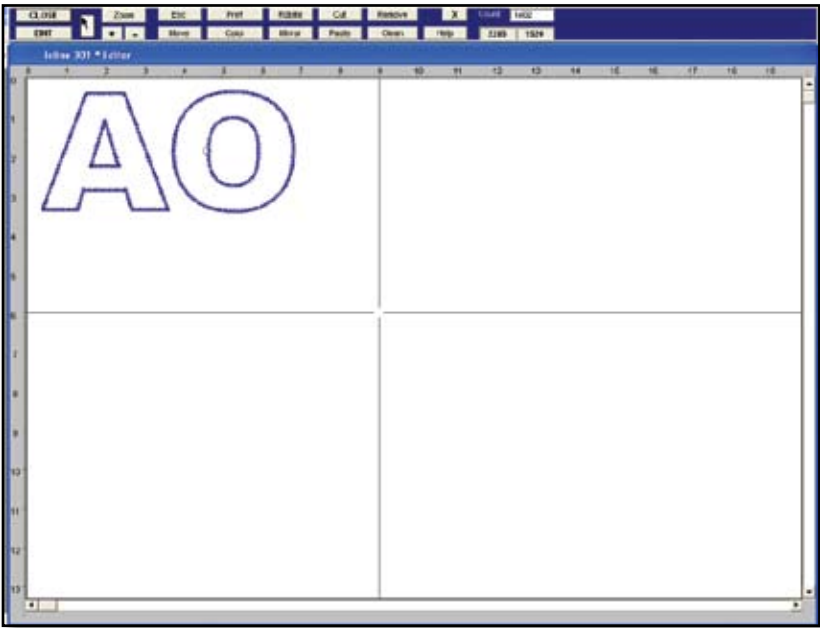
Figure 18. 301 Stitch Editor Blue Toolbar Mode, design level functions.

Blue Toolbar Mode
Design Level Functions

Close	Closes the editor, returns to the **Design Window**.
Edit	Edit at segment level (**Black Toolbar Mode**).
Zoom	Adjust display view of design.
ESC	Escape from the current task.
Move	Move entire design.
Preferences	Cross hair type, ruler type, etc.
Color	For color change or background.
Rotate	Dual direction in single degrees or 10x.
Mirror	Mirror either horizontally or vertically.
Cut	Cut the highlighted portion of the design.
Paste	Paste buffer contents.
Remove	Removes extra jumps, extra jumps & trims or small stitches.
Clean	Removes extra jumps, trims and small stitches.
X	exit **Editor**.
Help	Displays online **Help**.
Undo	Undo previous changes.
Options	To edit jumps and trims.
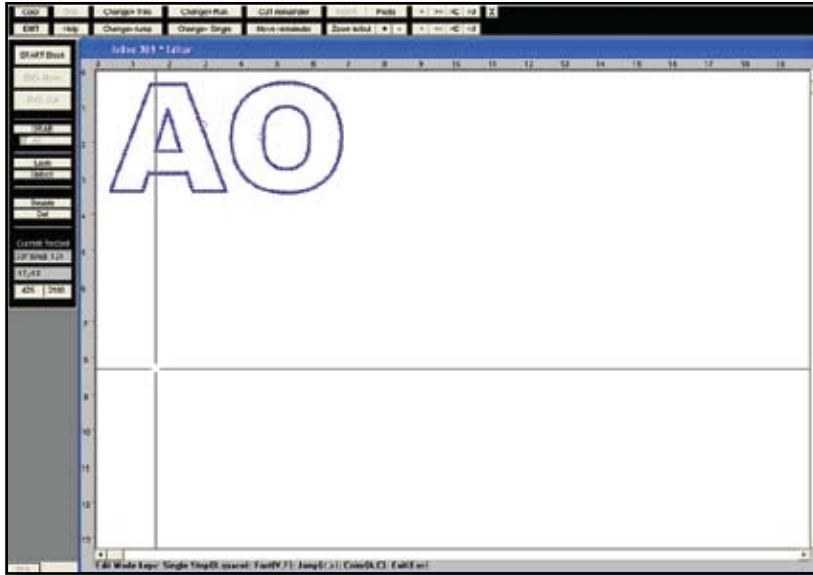
Figure 19. 301 Stitch Editor Black Toolbar Mode, segment level functions.

Black Toolbar Mode
Segment Level Functions

Color	Change the stitch color.
Exit	Returns to **Blue Toolbar Mode**.
Change> Trim	Change selected to a **Trim Stitch**.
Change> Jump	Change selected to a **Jump Stitch**.
Change> Run	Change selected to a **Run Stitch**.
Change> Single	Change selected to a **Single Satin Stitch**.
Cut Remainder	Cut unhighlighted portion of segment.
Move Remainder	Move unhighlighted portion of segment.
Zoom	Adjust display view of design in (**+**) or out (**-**).
Paste	Paste unhighlighted portion of segment.
< and >	Move selected segment forward and backward.
<< and >>	**Fast Forward** and **Fast Backward**.
>C and <C	**Forward** and **Backward** to next **Color Change**.
>J and <J	**Forward** and **Backward** to next Jump Stitch.
X	exit **Segment Level** of **Editor**.
START Block	Identify start of section for editing.
End- Move	Identify end of section for moving.
End- Cut	Identify end of section for deletion.
Grab	Select segment between previous and next jump.
All	Selects all segments within a group (i.e. both "islands" in "B").
Lock	Put a **Locking Stitch** at start and/or end of a selected group.
Unlock	Remove **Locking Stitches** from selected group.
Double	Split the current segment in the middle.
Del	Delete the current segment.
Current Record	Displays the segment number, stitch type and relative and absolute coordinates.
	Row 1 (e.g. "160 Run: 30"): Shows the segment number (in order from start), and the type of segment. **Outline**, **Tack-down**, and **Bean** stitch

segments are referred to as *Run* i.e. run-stitch; **Satin** and **Zigzag** stitches are referred to as *Sngl* i.e. single segments.

Row 2: Shows the relative coordinates of the segment (vector).

Row 3: Shows the absolute coordinates of the endpoint of the current highlighted segment. The coordinate display will change when the mouse pointer is moved, to show the current mouse position.

Create Stitches

1.   Open a design file.

2.   Click on the **Create Stitches** button. See **Figure 20** for samples and an explanation of the 5 stitch types.

3.   Select your desired stitch type(s) (**Figure 21**).

4.   Click on **OK** when finished.

5.   The design will appear with the stitches imposed over the outline.

| Placement Stitch | Tack-down Stitch | Bean Stitch | Zigzag Stitch | Satin Stitch |

Stitch Guide

Placement: An outline stitch of the applique. Used to aid the placement of the cloth pieces on the garment.

Tack-down: A rough stitch to initially apply the cloth design to the garment. Holds the cut pieces in place during the embroidery process.

Bean: A decorative stitch consisting of 3 or 5 stitches be-tween 2 points. This stitch has a thicker appearance than the standard running stitch.

Zigzag: Light-density stitch with adjustable width and offset. The lower stitch count usually results in a lower cost.

Satin: A high-density stitch with, adjustable width and offset. High stitch count results in high quality, but also often higher cost.

Figure 20. Descriptions of stitch types.
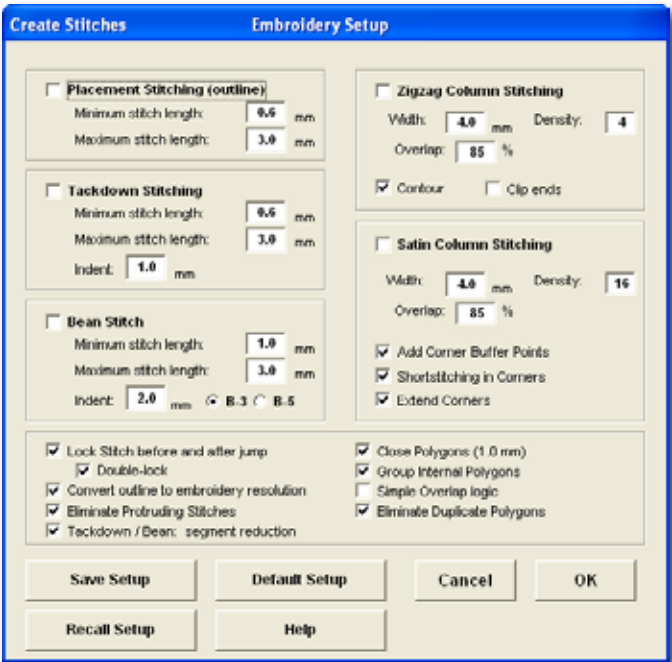
Figure 21. Creating stitches.

Hints for Choosing Stitch Types

The following table shows the Density Values for Zigzag and Satin columns:

Density	Per Centimeter	Percentage
1	10	10%
2	10.5	11%
3	11	11%
4	12	12%
5	12.5	13%
6	13.5	14%
7	14	14%
8	15	15%
9	17	17%
10	18	18%
11	20	20%
12	22	22%
13	25	25%
14	29	29%
15	33	33%
16	40	40%
17	50	50%
18	67	67%
19	100	100%
20	133	133%

Figure 22. Stitch density values.

Creating a Sew Disk

1. Choose **Save File**. Click on the output type required by the stitching machine.

2. Enter a file name and location for the stitch file. Choose **Continue with Export**.

3. If a file parameter window appears, adjust the settings as necessary. Click **Continue**.

Cutting a Design

1. Use the keypad **Arrow** keys to position the **Table** and carriage so that the blade tip is over the lower right corner of the material.

2. Press **Set Origin** on the keypad to obtain a green keypad light.

3. Click on the **All** button under **Zoom** in the upper left corner of the screen.

4. Click on **CUTTER Display**.

5. Click on **Port Setup** (**Figure 23**). Verify that the current port matches the port to which the cutter is physically connected to. See the cutter *User Guide* for help identifying the COM port. Click **OK**.
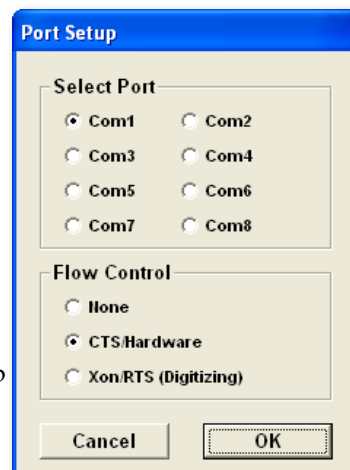
Figure 23. Select **Port Window.**

6. Click on **Send to Cutter**. Make sure that **Adjust output using registration data** is checked if the design was digitized. Click on **Send**. The cutter will begin the cut sequence. Wait until this is finished.

7. Remove (weed) the excess material. Remove the cut letters. Put them aside to embroider later.

Figure 24. Ready to Send Window**.**

Using Edit Design

Remove a Block of Stitches

This exercise will demonstrate how to remove a block of stitches from a stitch file with the **Edit Design** features.

Remove the Stitches

1. Load *fabrics.plt* into 301 Software. Add **Outline** and **Zigzag** stitches to the file. These steps are described above.

2. Press the **Edit Design** button.

3. Click the **Edit** button in the **Blue Toolbar,** then click any of the zigzag stitches in the triangle in the center of the "**A**" (the "**island**"). The **Black Toolbar** will appear (**Figure 25**).
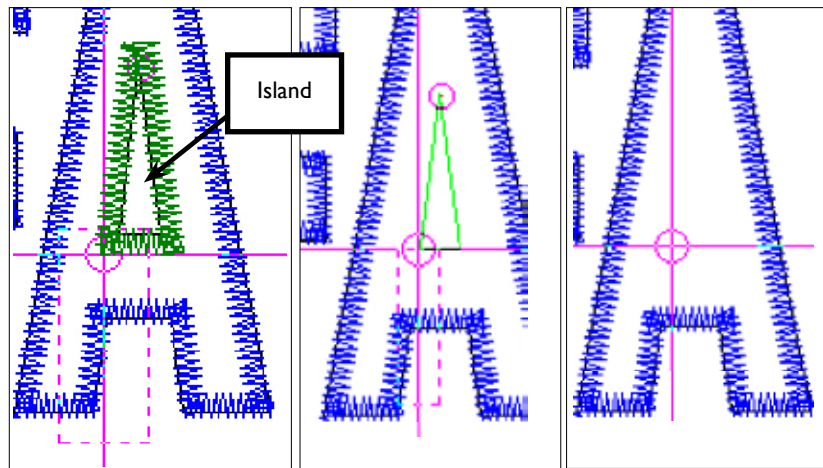
Island

Figure 25. Removing the stitch "**island**" in the letter "**A**".

4. Click on **Grab**. The whole block of stitches will change color and the **Blue Toolbar** will appear.

5. Click on **Cut**. The stitches on the "**island**" will disappear. Only the outline stitch will remain.

6. Repeat the previous steps to remove the outline stitch. Repeat this process for the "**B**" and the "**R**".

7. The design will look like **Figure 26** after the edits are complete.

Figure 26. Design after removing stitch "islands".

Save the File

1. Exit the **Stitch Editor** by choosing the **Exit Editor** button. Click on **Yes** to save the changes made during the session. Choose **No** when asked to continue editing the design.

2. The standard 301 software screen will appear. Click **Save File** to save the file in the format required by the embroidery machine.

Edit Individual Stitches

The process for editing individual stitches includes creating a stitch arc from the flat stitches generated by the 301 Software.

Prepare to Edit

1. Reload *fabrics.plt* into the 301 Software. Recreate the stitch file. Start the **Stitch Editor**. These steps are described above.

2. Press the Zoom button. Click in the editing window near the center of the "**A**" with the left mouse button (**Left click**).

3. Choose Level 3. If required, use the scroll bars to reposition the image so that the stitches in **Figure 27** are visible.

Modify the Stitches

1. Choose the Edit button. **Left click** on the stitch shown in **Figure 27**.

2. Click on the small square at the end point of the selected stitch with the right mouse button (**Right click**). Moving the mouse will reposition the stitch end point.

3. Drag the end point so that it looks like the **Figure 28**.

4. When the stitch end point is positioned properly, **Left click** on the mouse to release it in the new position.

5. Use the **Right** and **Left Arrow** keys in the **Black Toolbar** to select the next stitch in the row.

6. Repeat **Steps 2** through **4** for the remaining stitches in the row.

7. Repeat the process for the stitches in the bottom row of the "**island**" in the "**A**". Use **Figure 29** as a guide.

Save the File

1. Exit the **Stitch Editor** by choosing **Exit** then click on the **Close** button. Click on **Yes** to save the changes made during the session. Choose **No** when asked to continue editing the design.

2. The standard 301 software screen will appear. Click **Save File** to save the file in the format required by the embroidery machine.
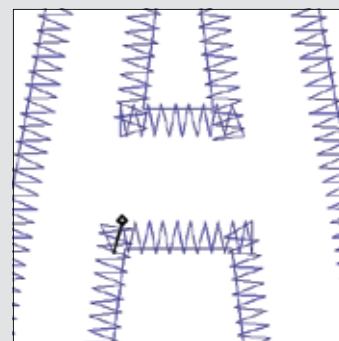
Figure 27. Select the first stitch you wish to edit.
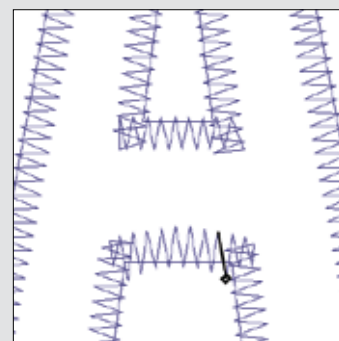
Figure 28. The bottom stitches will align in an arc after editing.
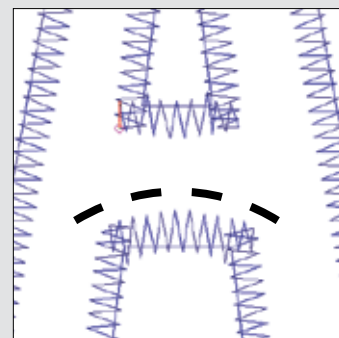
Figure 29. The completed edit.

Using Registration

Registration features allow users to cut or plot around a previously created patch, chenille design, label, or printed design. All that is required is a design file that includes the design outline for digitizing and a contour layer for cutting around the pattern. Ensure the file is in a format that the 301 can read. Please follow the instructions below for best results. Use the cutter *User Guide* for guidance using the cutter.

Cutter Preparation

1. Prepare the 300/350HF tray with the proper adhesive sheet. For example, use a high tack sheet for cutting scrim felt.

2. Lay material onto tray adhesive sheet and smooth out any bubbles or bumps.

3. Adjust cutting force and blade exposure for the material to be cut by performing a series of test cuts.

Open the 301 Software

1. Open the Ioline 301 Software by double clicking on the sun icon on the desktop or in **Start>Programs>Ioline**.

2. Browse to the **Design** file folder.

3. Click on a **File Type** button, i.e. **HP/GL** (**.PLT**).

4. Open the file by double clicking on the name in the file list.

5. The **Design Window** will appear.

Prepare the 301 Design Setup

1. Click on **Design Setup**.

2. Under the heading **Color Setup**, select the color/layer that shows the pattern for registration that the 300 will cut around. Verify that **Kiss Cut All** is selected. This feature is checked by default. *See* **Figure 30**.

3. Select **OK**.

Figure 30. Choose the layer that contains the outline to cut**.**

Create Registration Points

Registration points are features used to align the pattern/plot that you wish to cut or plot around. Greater distance between the registration points will result in greater accuracy in the adjusted plot/cut file. Points should be chosen that are easily selectable from the pattern (sharp corners, rather than curves).

1. Click on the **Registration** button. The 301 enters **Registration Mode**.

2. Under **Registration Points**, click on **Set Point 1** (**Figure 31**).

3. Position mouse pointer over desired **Registration Point** and click the left mouse button. Consecutive clicks of the left mouse button will re-select the coordinate.

4. Click the right mouse button to accept first registration point (**Figure 32**).

Figure 31. Use these buttons to set registration points.

5. Under **Registration Points**, click on **Set Point 2**.

6. Position mouse pointer over the desired **Registration Point** and click left mouse button.

7. Click the right mouse button to accept second registration point (**Figure 32**).
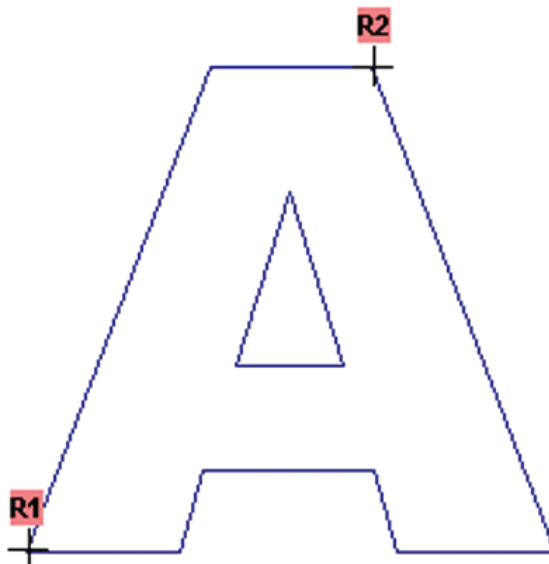
Figure 32. Design outline with **Registration** points defined.

Digitize Points from the Cutter

These steps require that the shape be positioned on the tray and ready to digitize. The sample file *2color.plt* is shown for this demonstration.

Prepare the Cutter

1. Remove blade holder.

2. Install the **Registration Tool**.

3. Use the **Arrow** keys to position the carriage and table so that cut/plot file will be in the positive **x** and **y** directions from the origin (**Figure 33**).

4. If the keypad light is red, press the **Set Origin** button. If not, press the keypad **Start/Stop** button until the keypad light turns red, then press the **Set Origin** button. The light will turn green.

Position the registration tool to the right and below the area to be cut as shown. Press the **Set Origin** button on the keypad.
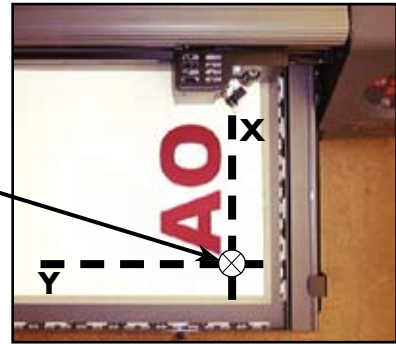
Figure 33. Setting the **Origin** for digitizing on the cutter.

Digitize the Points

1. In 301 Software, under **Digitize Points**, click on **Set Point 1**. Two clicks may be required. The LED light on the keypad will turn red.

2. Using the cutter keypad **Arrow** keys, position the carriage and tray so that the registration tool tip is over the **First Digitize Point** that corresponds to the registration point selected above (**Figure 34**).

Figure 34. Choosing a digitizing point on the cutter.

3. Press **Start/Stop** key on keypad.

4. 301 Software will display the new digitize point on-screen (**Figure 35**) and will change the LED light to green.

5. In 301 Software, click on **Set Point 2** under **Digitize Points**. (Two clicks may be required.) The LED light on the keypad will turn red.

6. Repeat **Step 2** for the second digitizer point.

7. Press **Start/Stop** key on the keypad.

8. 301 Software will display the second digitize point on-screen as a **DZ** to **RZ** (**Figure 35**) and will change the LED light to green.
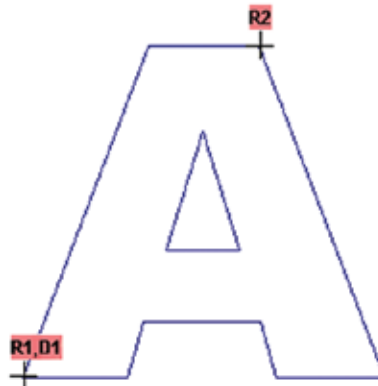
Figure 35. Digitizer point displayed on screen.

Send Adjusted File to Cutter

1. Select **Design Setup**. Under the heading **Color Setup**, check the color box(es) for only the layers you want to cut. All colors with checked boxes selected will be cut. For the *2color.plt* file, check only **color 1** (the contour color); uncheck **color 0** (**Figure 36**).

Figure 36. Turn the cut layer **ON** before sending to the cutter.

2. Select **Send to Cutter**. The box next to **Adjust** output using registration data should be checked. If not, file will not be adjusted using registration data.

3. Remove the registration tool and install the blade holder. Force and blade exposure must be properly adjusted before sending. *See the cutter **User Guide** for more information.*

4. Click on **Send**. See **Figure 37** for completed cut.

Figure 37. Completed cut using registration.

The steps described in *Digitize Points from Cutter* and *Send Adjusted File to Cutter* should be repeated for each shape that requires registration. If the file did not cut completely through the material, make test cut(s) to readjust the blade exposure and/or force. Once properly adjusted, press the **Repeat** button to recut or replot the adjusted file.

Hint

Digitize points are reusable to save time when using registration to Kiss Cut or cut multiple contours of the same design.

CAUTION

Pressing the Set Origin then Repeat keypad buttons will shift the starting location of the cut and could ruin the output.

Saving Registration Points in a File

It is possible to store the registration points that are created for a design.

1. Select **Exit Registration** or click on **X** in upper right corner of display window.

2. Click the **Save File** button.

3. Select HP/GL plotter (**.PLT**). Export window will open (**Figure 38**).

4. Select the *drive/ directory* for the exported file.

Figure 38. Export/Save window for HP/GL file.

5. Type a *file name*.

6. Ensure that the following check boxes are checked:

   • **Include Registration Points**

   • **Include all Layers**

7. Click on **Continue with Export**.

Special Cases

Importing Barudan® FMC (.dat) Files

Barudan® (**.DAT**) format may exist on an MS-DOS disk or on a Barudan® **FMC** (**CP/M** format) disk. If you wish to import/export from a Barudan® FMC disk, you must first copy the files from the Barudan® FMC disk to path *C:\Ioline\Barudan*.

> Important: This procedure requires that Software 22 disk for Barudan® FMC by Sydex is present in the C:\Ioline subdirectory. Contact Ioline Customer Service for more information.

1. Place the Barudan® FMC disk into drive **A:** or **B:**.

2. Press **Import Options** in the Main 301 Window.

3. Choose **Copy A** or Copy B to move all **.DAT** files from the disk to *C:\Ioline\Barudan* (**Figure 39**).

4. After copying files from FMC disk, exit the options window and select Barudan® (**.DAT**).

5. Select to import from *C:\Ioline\Barudan*.

6. Select the design file name (with **.DAT** extension) from those listed.

Figure 39. Import Barudan design files.

Saving Barudan® FMC (.dat) Files

Saving a Barudan® **.DAT** file onto a **CP/M** formatted floppy disk re-quires an initialization step beforehand. This step is NOT necessary if the **.DAT** files are saved onto an MS-DOS formatted floppy disk.

> **Important: This procedure requires that Software 22 disk for Barudan® FMC by Sydex is present in the** *C:\Ioline subdirec-tory*. Contact Ioline Customer Service for more information.

1. Choose the Barudan® format from the **Save File** dialog window (**Figure 40**).

2. Place a floppy disk in the **A:** or **B:** disk drive.

3. Press the **Initialize...** button for the correct drive.

4. When the process is complete, press the **Copy File to Drive...** button to finish the export.

Figure 40. Save Barudan design files.

Exporting .DXF files from Adobe® Illustrator®

The 301 software will import designs exported from Adobe® Illustrator® in the **.DXF** file format.

1. Finish the design in Adobe® Illustrator®.
2. Choose Export from the Illustrator® File menu.
3. Enter a file name.
4. In the File Format window, choose AutoCAD .DXF.
5. Choose **OK**.
6. A window will appear with export options. Choose the following:
    - **ACAD Version: R14/LT98/LT97**
    - **Number of Colors: 256**
    - **Raster File Format: BMP**
    - **Check Box Export Selected Art Only: no preference**
    - **Check Box Alter Paths for Appearance: no preference**
    - **Check Box Outline Text: no preference**
7. Choose **OK**.

Importing .DXF files into the 301

1. Setup the 300 and 301 as explained in the *Quick Start Guide*.
2. Start the 301 software by double clicking on the program icon.
3. At the main screen, press the **AutoCAD DXF** button.
4. Choose the file in the **Import File Name** window.
5. Press the **Load Import File** button.
6. The file is imported into the 301 Design Window.

Using CorelDRAW!®
to Make a Design

This exercise will illustrate the fundamentals of using CorelDRAW!® to create a design, welding letters together, creating a contour (or background layer), and exporting the file in HP/GL format for use in the 301 Software.

These are general steps so may work differently on other versions of CorelDRAW!®. Please contact Corel Corporation for more information on the use and features of CorelDRAW!®.

Creating a Design

1. Start CorelDRAW!®.

2. Click on the **Text** tool, then click the cursor anywhere near the lower lefthand corner of the page.

3. Type the word "**Cougars**". Highlight the word with the mouse, or by pressing **Ctrl** and **Shift**, then the left **Arrow** on the keyboard (**Figure 41**).

4. Go to the **Font List** and select **Brush Script MT**. "**Cougars**" will change to a scripted font with all the letters overlapping but not joined. Resize the letters by typing "**200**" in the **Font Size List**.

ⓘ Note

Look at the outline and notice how the individual letters are not actually connected to one another. The lines on the screen are the lines the cutter will cut. Welding (Figure 40) will connect the lines.
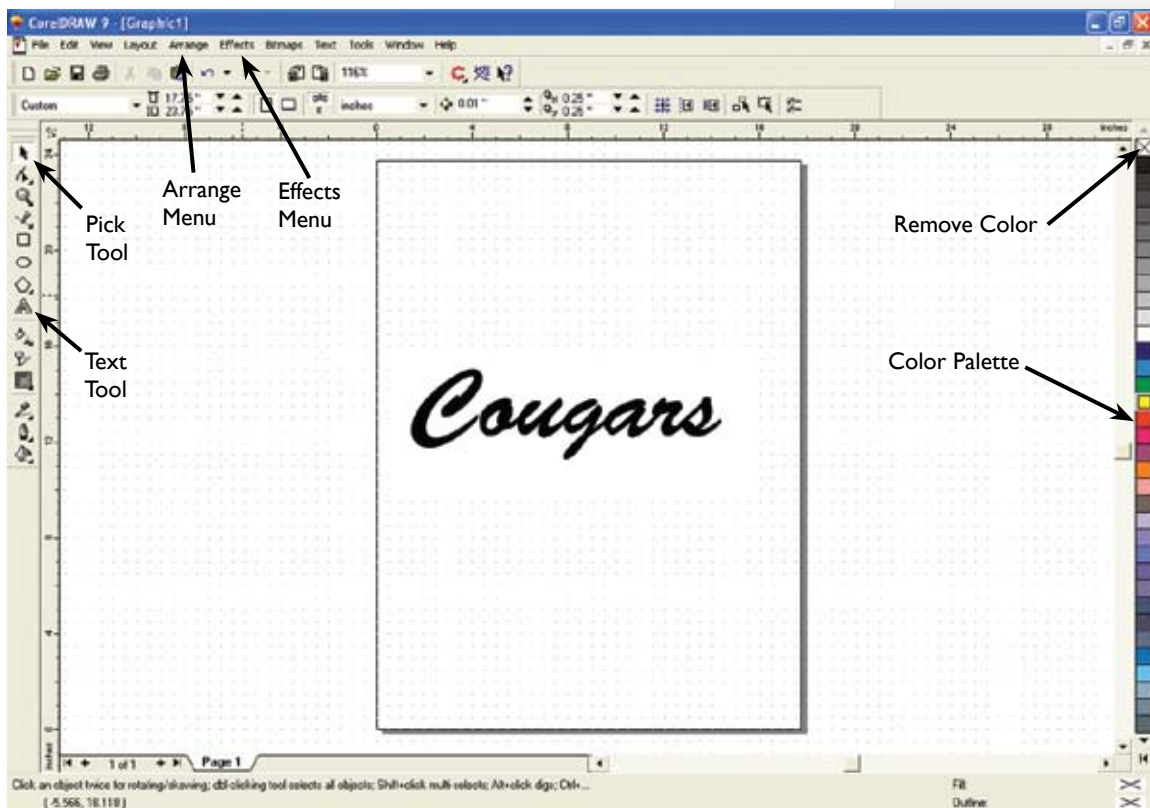
Figure 41. CorelDRAW!® main screen.
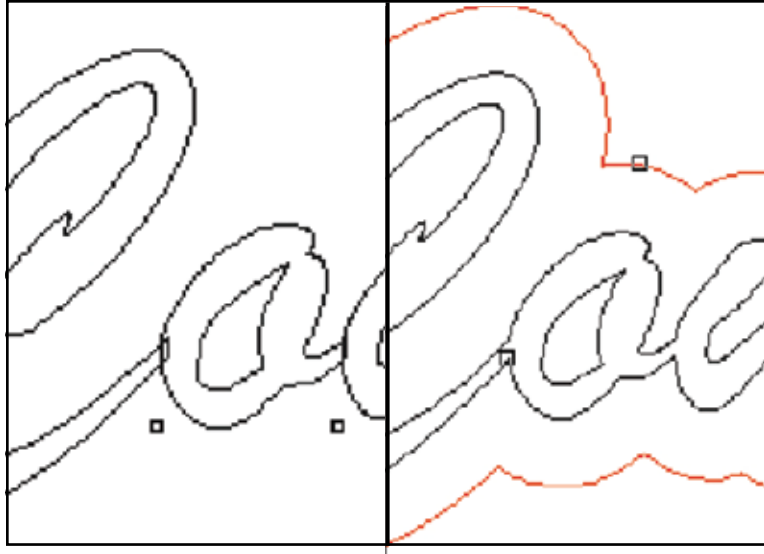
Figure 42. Letters before welding and addition of a contour (left) and with a contour after welding (right).

5.   Click on the **Pick Tool**.

6.   In the **Color Palette**, **Left click** on the **X** which is usually the top box. The image will go away.

7.   In the **Color Palette**, **Right Click** on the color of your choice. The image will reappear as an outline only.

Welding Letters

1.   Click on "**Cougars**" with the **Pick Tool**. Go to the **Arrange** menu. Click on **Weld**. A large black arrow will appear.

2.   With that arrow, click on the "C" in "**Cougars**". The cut lines that are in between the letters will disappear. "**Cougars**" is now one object instead of seven (**Figure 43**).

3.   Click and drag the grips (small-black squares visible after selecting an object) to make the object the desired size.

Creating a Contour

1.   With "**Cougars**" selected, open the **Effects** menu and select **Contour**. The **Contour** roll up will appear.

2.   Check the box next to **Outside** and enter ".25" in the **Offset** box. In the **Steps** box, enter "**1**" (**Figure 44**).

Figure 43. The weld roll up.
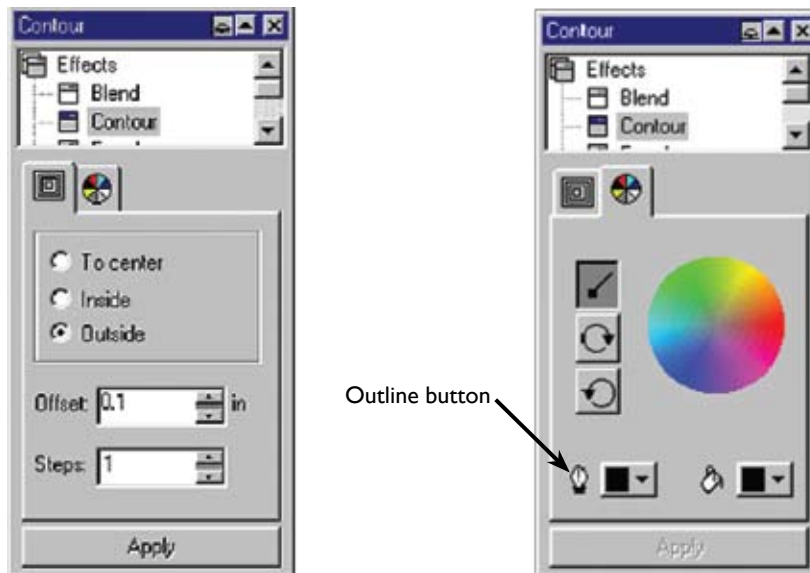
Figure 44. The contour rolls up.

3. Click the **Color Wheel** tab in the **Contour** dialogue box. Click on the **Outline** icon and select a color for the design (**Figure 44**).

4. Click on **Apply**. This will create a 1/4″ contour around "**Cougars**" in the selected color (**Figure 45**).

5. Open the **Arrange** menu and select **Separate**. Click the mouse somewhere on the empty page. This will deselect both "**Cougars**" and the new background design.

Saving the File

1. Open the **File** menu. Select **Export**. Select **PLT HP/GL Plotter File** as the file type. Name the file "**Cougars**," and click **OK**. Accept the default settings for the export process.

2. The file is now ready for importing into the 301 Software. Different colors are treated as different layers in the 301 software so the *Cougars.plt* file will open into the 301 with two layers.

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Service & Support

Ioline has many years of experience working with sports and decorative apparel professionals. Feel free to contact us if you have questions—or to share information.

Getting Help

Ioline is committed to providing the highest quality service and support to its customers. If you need assistance with an Ioline 300 or 350HF System, a number of resources are available:

1. First, refer to this *User Guide* for answers to your specific questions.

2. Many detailed troubleshooting and repair issues are listed in the *300 / 350HF Systems Service Manual*, available upon request from Ioline Customer Service.

3. Consult the support section of the Ioline Web site:

    www.ioline.com

4. For additional assistance, contact your local dealer or Ioline Customer Service. Contact information is listed under *Customer Service* in this chapter.

Any warranty servicing of this product not specifically described in this manual must be authorized in writing by Ioline Customer Service. You may obtain service by calling or faxing Ioline Customer Service. The technicians will help you determine the nature of the problem. If factory repair is necessary, you will receive a RMA (Return Material Authorization). Please gather the information indicated on the next page before contacting Ioline or your dealer.

1. When returning a machine, carefully package the equipment in its original container or packaging equivalent. You may purchase shipping containers from Ioline by contacting Ioline Customer Service. **Ioline is not responsible for any damage due to inadequate or improper packaging.**

2. Carefully wrap and secure all items in the shipping container to prevent damage. Seal the container and note the RMA number near the address block.

3. Ship the container using FED-EX or another approved carrier. COD shipments **ARE NOT ACCEPTED**. An Ioline representative will contact you prior to the start of work with an estimate of repair cost. All repairs are warranted for 90 days.

Customer Service

Ioline Corporation is committed to providing quality service and support to our customers. If you need assistance with an Ioline product, contact your local dealer or Ioline authorized service center. You may also contact:

<div align="center">

Ioline Customer Service Department
Monday through Friday
7:00 A.M. - 5:00 P.M. U.S. Pacific Time
Voice: 1.425.398.8282
Fax: 1.425.398.8383
support@ioline.com
www.ioline.com

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Your Comments
Are Requested

Ioline Corporation is interested in comments on our documentation and products. Please send corrections or suggestions to:

<div align="center">

Ioline Corporation
14140 NE 200th Street
Woodinville, WA 98072 USA
Voice: 1.425.398.8282
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info@ioline.com
www.ioline.com

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Before you contact Support...

Please gather the following information about your printer before contacting Ioline or your dealer for technical support:

Name:	
Company Name:	
Phone Number:	
Fax:	
E-mail:	
Model:	
Serial Number*:	
Date of purchase:	
Dealer:	
Type of media & ink used:	
Type of Computer:	
Type of design software:	
New software or peripherals:	
Service history:	

The FCC Wants You to Know...

This equipment generates and uses radio frequency energy and, if not installed and used properly (in strict accordance with manufacturer instructions), it may cause interference to radio and television reception. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. If this equipment does cause interference to radio or television reception - which can be determined by turning the equipment off and on - you are encouraged to try to correct the problem by one or more of the following measures:

- Use only shielded interface cables.

- Reorient the receiving antenna.

- Relocate the host computer with respect to the receiver.

- Move the host computer away from the receiver.

- Plug the host computer into a different outlet so that the host computer and receiver are on different branch circuits.

If necessary, consult the dealer or an experienced radio/television technician for additional suggestions. *How To Identify and Resolve Radio-TV Interference Problems,* a booklet published by the Federal Communications Commission, is a helpful reference. Please contact the FCC to request a copy:

www.fcc.gov

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